

**METHOD AND SYSTEM FOR PROGRAM TRANSFORMATION USING  
FLOW-SENSITIVE TYPE CONSTRAINT ANALYSIS**

**INVENTOR:**

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**ABSTRACT OF THE DISCLOSURE**

A method for analyzing a program is provided. The method includes,  
determining an object type that may exist at an execution point of the program, wherein  
10 this enables determination of possible virtual functions that may be called; creating a call  
graph at a main entry point of the program; and recording an outgoing function call  
within a main function. The method also includes analyzing possible object types that  
may occur at any given instruction from any call path for virtual calls, wherein possible  
object types are determined by tracking object types as they pass through plural  
15 constructs; and calling into functions generically for handling specialized native runtime  
type information.